

conduction problems. This seems to be a better controlled and safer monitor than the prior practice of waking the patient during the operation to assess voluntary motor function in the legs.

Surgical treatment for scoliosis is a relatively safe procedure. When these techniques are applied to a patient who has the proper indications, in an environment with appropriate controls and experienced management, they can prevent disabling deformities, afford correction of established curves and prevent disability resulting from uncontrolled curve progression.

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Orthopedic Management of Patients With Multiple Injuries

DURING THE PAST FEW YEARS, experience from trauma centers suggests that immediate stabilization of fractures effectively decreases morbidity and mortality of patients with multiple injuries.

Meek and co-workers compared victims of multiple trauma whose long bone fractures were fixed in the first 24 hours after injury with a similar group treated more traditionally. The mortality of the early fixation group was 1 in 22, that of the control group was 14 in 49.

Secure stabilization of skeletal injuries gives patients more mobility and reduces the need for narcotic analgesia, thereby improving pulmonary care. Moreover, the incidence of posttraumatic respiratory distress syndromes is decreased. Continuing blood loss into fracture sites may also be reduced by rigid fixation. Nursing care is simplified, compared with that required for patients in skeletal traction and cumbersome plaster casts.

In addition to systemic benefits, successful application of demanding techniques of wound care and fracture immobilization appears to lower the risk of fracture infection, nonunion and malunion. It also permits earlier rehabilitation of the injured parts, with less likelihood of permanent functional impairment.

It is crucial to plan the management of skeletal injuries in the context of the whole person. A well-organized trauma team is basic. Immediate fracture fixation should be undertaken only if it will not interfere with more urgent life-saving needs, if it will provide sufficient stability for

early patient mobilization and if it will enhance the total care of patients.

Expertise and equipment should be available for screw and plate fixation, intramedullary nailing, external skeletal fixation, Harrington rod spine fusion and functional bracing techniques like the halo-jacket and roller-traction cast-brace. Multiple surgical teams are desirable, to expedite the operative procedures.

Total care of multiply injured patients must include complete, prompt diagnosis of all injuries, with urgent treatment of cardiorespiratory, cerebral and abdominal problems that threaten survival. Unstable spine injuries must be managed so that the spinal cord is protected. Sepsis must be prevented. Effective care of other injuries will minimize their complications and maximize functional recovery. Patients' nutritional needs must be anticipated and met.

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Arthroscopic Surgical Techniques

ONE OF THE most exciting developments in orthopedic surgery during the past few years has been arthroscopy and arthroscopic surgical techniques. As Casscells has pointed out, arthroscopy has been accepted as the most accurate diagnostic test for knee joint problems. In many areas of North America, arthroscopy represents the most common orthopedic procedure done.

The arthroscopic operation is a logical extension of diagnostic arthroscopy, the concept being: if you can see the lesion with the arthroscope, then fix it with the arthroscope. Essentially the technique involves the use of miniature cutting, biting and grasping instruments to carry out standard surgical repair of the knee through small puncture wounds. In the mid 1970's, arthroscopes with improved optics became available and miniaturized instruments were perfected, enabling surgeons to begin developing arthroscopic surgical techniques. In the late 1970's motorized instruments became commercially available and the arthroscopic revolution was under way.

Patient enthusiasm has been a major impetus for the rapid development of arthroscopic oper-